Engineering Management at Stevens prepares students to become decision makers able to engineer solutions to complex problems. Stevens has a proud history of leading innovation in engineering, science and technology.

As one of the first universities in the world to offer an engineering management program, graduate studies in engineering management provide an interdisciplinary blend of courses in systems engineering, financial engineering and enterprise systems. Students develop the engineering management skills necessary to lead teams and projects that deliver high quality and cost efficient solutions to technically complex system, product and process problems.
MASTER OF ENGINEERING

Designed for the engineer and technical manager who needs a broader education to keep an organization operating efficiently and working ahead of its competitors, the Master of Engineering in Engineering Management degree provides students with a strong understanding of the technology involved in engineering projects, and the management process through which the technology is applied. Graduates from the program are prepared to work effectively at the interface of engineering and management and assume professional positions of increasing responsibility across a broad range of industries, such as: healthcare, technology, finance, business and software systems.

The master’s degree requires 10 courses (equivalent to 30 credits); six-core required courses and four-elective courses. Students are encouraged to take an integrated four-course sequence leading to a graduate certificate for the electives.

Required Core Courses

*The master’s degree requires the following core courses:

- EM 600 Engineering Economics
- EM 605 Elements of Operations Research
- EM 612 Project Management of Complex Systems or EM 680 Designing and Managing the Development Enterprise
- EM 624 Informatics for Engineering Management
- SYS 660 Decision and Risk Analysis
- SYS 611 Modeling and Simulation or SYS 681 Dynamic Modeling of Systems and Enterprise

Recent studies show that most engineers will ultimately assume managerial positions and that most will spend a considerable part of their professional careers in a management or supervisory capacity. In a recent survey conducted by the American Association of Engineering Societies, it was found that within ten years of the start of their careers, more than 50 percent of engineers find themselves in technical management positions, often without the benefit of formal training in management.

Options for Completing Your Degree

Three semesters of full-time study on-campus or Two semesters of full-time study on-campus and one summer or Two semesters of full-time study on-campus and online via Stevens Webcampus or Part-time for working professionals

―Guoquan Xu
Student, Master’s in Engineering Management

The Engineering Management program at Stevens is challenging, but rewarding. It provides essential tools for getting ahead in the world. Along with technical knowledge, we learn about the workings of day-to-day business, strategic planning, and most importantly, building relationships and having confidence. We are taught to see the big picture.”
DOCTORAL DEGREE

The Doctor of Philosophy (Ph.D.) degree consists of 54 credits, post master’s and minimum 15 research credits. The curriculum for the doctoral program is designed to develop the ability of the student to perform high-impact research and high-level design that will contribute significantly in the advancement and growth of the field of engineering management. For more details on the doctoral program and requirements, visit stevens.edu/sse/doctoral-studies.

GRADUATE CERTIFICATES  (4 course, 12 credits)

All courses taken as part of a graduate certificate can be applied toward a master’s degree.

DATA EXPLORATION AND VISUALIZATION FOR RISK AND DECISION-MAKING

With Big Data being a universal priority in the world today, organizations are constantly collecting and analyzing data sets to extract valuable information and subsequently they require tools that can disseminate the information simply and accurately. Through data exploration and visualization, large amounts of complex information can be communicated clearly via graphic designs.

This certificate introduces students to the latest data manipulation, extraction and visualization techniques that can enhance their decision-making and risk-analysis skills. It covers modern techniques in data analysis and visualization, data science and knowledge discovery, informatics and decision-making and risk analysis.

EM 622 Data Analysis and Visualization Techniques for Decision making
EM 623 Data Science and Knowledge Discovery in Engineering Management
EM 624 Informatics for EM
SYS 660 Decision and Risk Analysis

FINANCIAL RISK ENGINEERING

The recent turbulence in the financial system heightened the need for a much stronger understanding of the financial system, its environment and the risk measures applied in the industry to quantify risk it in its multiple hierarchies. This certificate enables the graduate to fill this need and play an important role in balancing the interests of shareholders with the appropriate levels of risk taken by the managers and decision makers.

FE 535 Introduction to Risk Management
FE 610 Stochastic Calculus for Financial Engineers
FE 635 Financial Enterprise Risk Engineering
FE 655 Systemic Risk and Financial Regulation

SYSTEMS AND SUPPORTABILITY ENGINEERING

This four-course cluster presents innovative methods and practices to integrate system reliability, maintainability and supportability considerations into the systems engineering process. On the other hand, methods to optimize necessary logistics resources and processes are critical and are also studied in this sequence of courses. Current business trends are discussed and assessed.

SYS 625 Fundamentals of Systems Engineering
SYS 640 System Supportability and Logistic
SYS 645 Design for System Reliability, Maintainability
SYS 650 System Architecture and Design

Full course listings for graduate certificates can be found at stevens.edu/sse/graduate-certificates.
A faculty advisor must approve all other graduate certificate options for the Engineering Management program.
RELEVANT CURRICULUM

Stevens graduate courses are designed with a theory and implementation perspective. Utilizing an Open Academic Model, the School of Systems and Enterprises (SSE) leverages global partnerships with industry and government to provide a highly relevant and engaged curriculum tailored to the real world and the skill competency needs of practitioners.

UNIQUELY QUALIFIED FACULTY

Stevens Institute of Technology brings together institute-wide faculty who are industry experts and practitioners, researchers and academics, with students who are committed to learning in a dynamic, diverse and engaged community. Stevens faculty possess a wealth of industry and government experience, and expertise across diverse domains, including Aerospace, Healthcare, Security, Telecommunications, Finance and Defense.

FLEXIBLE DELIVERY OPTIONS

Stevens Institute of Technology delivers its courses in convenient, flexible delivery formats including:

• Traditional semester courses held one evening a week for 15 weeks, on-campus at Stevens in Hoboken, NJ
• Online via our award-winning Stevens WebCampus
• On-site at industry and government sponsor locations worldwide

ADMISSION REQUIREMENTS

Applicants may apply online at stevens.edu/applications

• Completed application for admission
• $60 non-refundable fee
• An undergraduate degree in engineering or in computer science or in a related discipline, with a “B” average or better from an accredited college or university
• Official transcripts from all institutions attended
• Two letters of recommendation
• GRE /GMAT scores (Part-time students do not require GRE/GMAT scores)